

Avnet offers you 8 sources for the complete line of Microdot Connectors –with 1 phone call!

Avnet stocks Microdot's complete line including multipin connectors with up to 61 power or 19 coaxial contacts in a plug with 11/8" o.d.; microminiature coaxial connectors in 50, 70 and 90 ohm types; coaxial, twinax and triaxial cables (RG types approved to MIL-C-17C).

Discuss your requirements on Microdot Connectors with any of the 8 Avnet Offices listed below. When you phone your local Avnet Stocking Facility, you are — in effect — talking to 8 sources at one time.

AVNET MICRODOT



AVNET AVNET ELECTRONICS CORP

THE AVNET SYSTEM
Men/Methods/Materials/Management

LOS ANGELES, CAL., 213 UP 0-6141; SUNNYVALE, CAL., 408 RE 6-0300; SEATTLE, WASH., 206 GL 4-4911; PHOENIX, ARIZ., 602-273-1261; SALT LAKE CITY, UTAH, 801-487-7566; CHICAGO, ILL., 312 GL 5-8160; WESTBURY, L. 1., N. Y., 516 ED 3-5800; BURLINGTON, MASS., 617 BR 2-3060.

Circle Service No. 22

DESIGN DATA

1962 Design Data Cross-Index

-	-
Air Flow through a Sharp-Edged OrificeMar. 7	58
Alloy Chart, CopperMay 30	96
Alloys, Investment CastingMay 30	94
Angles, Bevel Gear Pitch ConeDec. 12	110
Angular Indexing Torque NomogramAug. 8	46
Angular Positioning for Machining Oct. 31	58
Angular Velocity — Peripheral Velocity Dec. 12	111
Arc-Radius Nomogram Dec. 12	106
В	
Band Brakes and Belt DrivesJune 13	82
Bandbrakes, Two-Directional	0.2
DifferentialNov. 14	102
Batteries, Rechargeable, Performance	
Characteristics ofNov. 14	108
Beam Sections, Shear Center for, with	
One Axis of SymmetryJune 13	84
Beams, Calculating Fixed End MomentsMay 2	46
Beams, Cantilever, Large Deflection ofFeb. 21	94
Beams, Curved, Bending ofApr. 4	51
Beams, Energy Storage Capacity in	31
Bending, and Spring RateJan. 24	80
Beams, Tapered, Critical Sections in	00
	65
BendingJuly 11 Beams, Typical, Ultimate Bending	03
	80
Moment	80
Beams, Uniformly Tapered Cantilever of	58
Circular Cross-SectionFeb. 7	
Belt Drives, Band Brakes andJune 13	82
Bending, of Beams, Energy Storage	
Capacity, and Spring RateJan. 24	80
Bending, Critical Sections of Tapered	
BeamsJuly 11	65
Bending of Curved BeamsApr. 4	51
Bending Stress in Bolts Jan. 24	83
Bending and Twisting Moment,	
Combined, Circular Shaft underNov. 14	104
Bevel Gear Pitch Cone AnglesDec. 12	110
Bolts, Bending Stress inJan. 24	83
Brakes, Band and Belt DrivesJune 13	82
Buckling, Tube Selection and Frequency	
CriteriaMar. 7	60
c	
Calculating Fixed End Moments for	
BeamsMay 2	46
Cantilever Springs, FlatAug. 22	64
Charts for Radial Translating	04
FollowersFeb. 21	90
Circular Plates, Rectangular andJuly 25	50
Circular Plates, Slope forNov. 28	
Circular Plates with Transverse or	62
Moment LoadingAug. 22	44
Circular Shaft under Combined Bending	66

For Free Reprints of the Above Article, Circle Service No. 526

NEW-FROM DANA

SPICER MODEL #12 DRIVING AXLES

Lightweight and versatile...Spicer conventional and swing axles are now available with ratios up to 12.25 to 1.

CHECK THESE FEATURES . . .

PROVEN DEPENDABLE DESIGN

86

65

72

76

58

49

90

48

Sept. 5

....Jan. 24

Nov. 14 102

... Dana is an experienced manufacturer of hypoid axles—with millions in use.

MAXIMUM GROUND CLEARANCE

... the hypoid offset axle can be mounted above centerline.

DIRECT MOTOR ALIGNMENT

... no belts or pulleys are required.

FLEXIBILITY OF TREAD REQUIREMENTS

. . . pressed-in axle tubes can be varied in length to adjust to tread.

MINIMUM WEIGHT

. . . advanced heat-treat methods permit maximum stress values with minimum weight.

RIGHT-ANGLE DRIVE OPTION

... Model #12 carrier assembly is also offered as an "angle drive" for pump, generator, or other comparable application.

Dana Corporation is a pioneer and leader in the design and development of practical, lightweight conventional and swing axles. Inquiries are invited for engineering assistance, or more complete details of the Model #12, and other driving axles—front and rear.

SPECIFY SPICER!

WRITE FOR MORE DETAILS . . .



permits maximum flexibility.



The Model #12 swing axle is available for independent suspensions, and angle drives.

SPICER MODEL #12 AXLE

		a
RATIOS: (gas)	5.17 to 1	
(electric)	12.25 to 1	
NOMINAL AXLE CAPACITY:	1,000 lbs.	
TREAD RANGE:	Variable	
TUBE DIAMETER:	2"	



ORPORATION Department 86, Toledo-1, Ohio

Circle Service No. 23

(Continued on next page

Column Formulas, Graph for Parabolic

Critical Load on a Helical Compression

Critical Sections of Tapered Beams in

Stress in

Plastics Differential Bandbrakes,

Two-Directional

Drives, Belt, and Band BrakesJune 13

Representation ofMay 16

SheetMar. 21

Flat Cantilever SpringsAug. 22

Flexure, Vibration inJuly 11

OrificeMar. 7

Flywheel EffectJuly 11

Focal Length NomogramMay 2

Folded-Scale NomogramsJune 27

Forced ConvectionJan. 10

Charts forFeb. 21

Design RecommendationsApr. 18 Gears, Bevel, Pitch Cone AnglesDec. 12

FormulasSept. 19

for Pressure VesselsJuly 25

Iron PipeApr. 4

Helical Springs, Nomogram forSept. 19

Mechanical SealsFeb. 7

Tool Steels for

Graph PapersMay 30 Graph for Parabolic and Secunt Column

Elliptical Heads for Pressure Vessels.....July 25

Cylinders, Thick, and Spheres,

Definition and Classification of

Elliptic Functions, Simplified

Equations, Simultaneous, Rapid Solution of

Exponents and Logarithms Reference

Flow, Air, through a Sharp-Edged

Followers, Radial Translating,

Heads, Elliptical,

Gear Systems, Precision, Analysis and

Heat Loss from Copper Tube and Bare

High-Temperature Design,

Horsepower Loss in Face-Type

and SecantSept. 19

Copper Tube and Bare Iron Pipe, Heat

Loss fromApr. 4 Convection, ForcedJan. 10 Conversion Charts, VelocitySept. 19

SpringJen. 10

BendingJuly 11



AND STAYS AND STAYS AND STAYS

AND

STAYS.

CHR Silicone Sponge Rubber sheet is low in compression set and keeps its resiliency because: It is flexible from minus 100 degrees to plus 500 degrees. It is immune to aging. It is non-absorbing. It is a uniform closed cell structure. For gasketing, vibration dampening and pressure applications, where you want a material that can take it and keep taking it, use CHR Silicone

CHR

Sponge Rubber. ■ Stocked by distributors across the country in thicknesses from 1/16 to 1/2 inch in 1/16 increments. Check Thomas Register for your local CHR distributor.

CONNECTICUT HARD RUBBER CO., NEW HAVEN, CONN.

Circle Service No. 24

DATA INDEX

1	
Investment Casting AlloysMay 30	94
Iron Pipe, Bare, Heat Loss from Copper	
Tube andApr. 4	48
K	
Kinematic Viscosity and Reynolds NumberDec. 12	108
Numberbec. 12	100
L	
Large Deflection of Cantilever BeamsFeb. 21	94
Length, Focal, NomogramMay 2	49
Loading, Circular Plates with	
Transverse or MomentAug. 22	66
Logarithms, Exponents and,	
Reference SheetMar. 21	88
M	
	94
Measurement, Noise	74
Moment, Combined Bending and	
Twisting, Circular Shaft under	
N	
Noise MeasurementMar. 21	94
Nomograms for Helical SpringsSept. 19	88
Nomograms for Torus TanksSept. 5	74
Numbers, Fractional, Powers ofJan. 24	88
Numbers Near One, Operations withApr. 4	50
	-
0	
_	
Oblique TrianglesMay 16	79
Oblique TrianglesJune 13	87
Operations with Numbers Near OneApr. 4	50
Orifice, Air Flow through a	
Sharp-EdgedMar. 7	58
P	
Papers, Graph	80
Parabolic and Secant Column Formulas,	
Graph for	87
Performance Characteristics of	
Rechargeable BatteriesNov. 14	108
Peripheral Velocity - Angular VelocityDec. 12	111
Pitch Cone Angles, Bevel GearDec. 12	110
Plastics, Definition and	110
ClassificationOct. 3	98
Plates, Circular, Slope forNov. 28	62
Plates, Rectangular and CircularJuly 25	50
Powers of Fractional NumbersJan. 24	88
Precision Gear Systems, Analysis and	
Design RecommendationsApr. 18	140
Pressure Vessels, Elliptical Heads forJuly 25	52
R	
Rapid Solution of Simultaneous	
EquationsJan. 24	84
Rechargeable Batteries, Performance	
Characteristics ofNov. 14	108
Rectangular and Circular PlatesJuly 25	50
Characteristics of	

(Continued on next page)

FOR TEMPERATURE TORQUE OR TOUGHNESS...



IPC OIL SEALS are "custom" designed to meet your specific needs

From compounding to QC . . . IPC monitors every phase of Oil Seal manufacture to ensure consistent quality!

Why not ask us more about our engineering and manufacturing experience with these critical components? We'd love to tackle your next Oil Seal problem.



OIL SEALS
PACKINGS
PRECISION MOLDING
Custom designed
for your application

INTERNATIONAL PACKINGS CORPORATION

Bristol, New Hampshire

P-12-62

Circle Service No. 25

Restrained Beams - Progressive Beam	
AnalysisOct. 17	83
Reynolds Number and Kinematic	
ViscosityDec. 12	108
, , , , , , , , , , , , , , , , , , , ,	
S	
Scale, Folded, NomogramsJune 27	56
Seals, Mechanical, Horsepower Loss in	
Face-Type	56
Secont and Parabolic Column Formulas,	
Graph for	87
Shaft, Circular, under Combined	
Bending and Twisting MomentNov. 14	104
Shear Center for Beam Sections with	
One Axis of SymmetryJune 13	84
Simplified Representation of Elliptic	
Functions May 16	76
Slope for Circular Plates Nov. 28	62
Spheres, Stress in Thick Cylinders and Sept. 5	72
Spring Rate, Energy Storage Capacity	
in Bending of BeamsJan. 24	80
Springs, Flat Cantilever Aug. 22	64
Springs, Helical Compression, Critical	
Load onJan. 10	77
Strings, Helical, Nomogram forSept. 19	88
Steels, Tool, for High-Temperature	
Design Oct. 3	96
S.ress, Bending, in BoltsJan. 24	83
5 ress in Thick Cylinders and Spheres Sept. 5	72
*	
Tenks, Torus, Nomograms forSept. 5	74
Teol Steels for High-Temperature	
Design Oct. 3	96
Forque Nomogram, Angular Indexing Aug. 8	46
Torus Tanks, Nomograms forSept. 5	74
Triangles, ObliqueMay 16	79
Triangles, ObliqueJune 13	87
Trigonometric Reference TableJune 13	88
Tube Selection by Buckling and	
Frequency CriteriaMar. 7	60
Two-Directional Differential	
BandbrakesNov. 14	102
U	
Unimate Bending Moment of Typical	
Beams	80
Uniformly Tapered Cantilever Beams of	
Circular Cross-SectionFeb. 7	58
V	
Velocity, Angular Peripheral Dec. 12	111
Telocity Conversion Charts	86
Yessels, Pressure,	
Elliptical Heads forJuly 25	52
Vibration in FlexureJuly 11	60
"iscosity, Kinematic, and Reynolds	
Number Dec. 12	108
Volume Conversion ChartsOct. 17	82
For Free Reprints of the Above Article,	
Circle Service No. 526	



More than four-ton load capacity—that's the kind of brawn built into the biggest Moline Combination Chain! It's backed up by ultimate strengths of 25 to 31 tons. This unusual strength is achieved by alternating beefed-up, closed end Malleable or Promal links with tough, high carbon steel side bars.

Chambered barrel design (four sizes from 3.075 to 6.05-inch pitch) provides a grease chamber to prevent the chain from freezing. It also blocks the entrance of abrasive and corrosive materials. All Combination Chains are also available with standard barrel design in nine sizes from 1.631 to 6.05-inch pitch. All Moline Combination Chains have elliptical barrels.

With the wide range of chain attachments shown above, Moline Combination Chains can be adapted to almost all heavy duty elevating and conveying applications. Whatever the application, make it your choice for maximum strength and maximum wear resistance.

MOLINE MALLEABLE IRON CO., St. Charles, Illinois

Moline Chains

Circle Service No. 26

"working size" Moline
Chain Manual and Design
Engineers' Handbook.
It's packed with useful
facts on chain selection
and operation.

Write today for the new